



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/003,725      | 10/30/2001  | Shawn Stapleton      | BWD:2353.005        | 2647             |

7590 06/20/2003

Bruce W. DeKock/Chernoff, Vilhauer,  
McClung & Stenzel, LLP  
Suite 1600  
601 S.W. Second Avenue  
Portland, OR 97204

EXAMINER

CHOE, HENRY

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/003,725

Applicant(s)  
Stapleton

Examiner  
Henry Choe

Art Unit  
2817



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Mar 31, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above, claim(s) 39-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11, 16, 17, 21-25, 28, and 33-37 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 12-15, 18-20, 26, 27, 29-32, and 38 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☒ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit:

## **DETAILED ACTION**

### ***Election/Restriction***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-3~~8~~, drawn to an RF amplifier circuit, classified in class 330, subclass 10.
  - II. Claims 3~~9~~-7~~6~~, drawn to an RF transmission system, classified in class 375, subclass 297.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as combination and subcombination. Inventions in this relationships are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the broad recitations claimed in group II do not require the specifics of the group I amplifier.

The subcombination has separate utility such as an RF amplifier for a cellular telephone repeaters.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Art Unit:

5. During a telephone conversation with Mr. Donald Haslett on 6/13/2003 a provisional election was made with traverse to prosecute the invention of the elected group, claims 1-37. Affirmation of this election must be made by applicant in replying to this Office action. Claims 38-75 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Claim Objections***

7. Claims 5-37 are objected to because of the following informalities: Please renumber the claim numbers and their dependencies. Appropriate correction is required.

Art Unit:

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

9. Claims 1-4, 6-9, 11, 21, 25, 28 and 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Melanson (Fig. 2a).

Regarding claims 1-3, 6-9, 11, 21, 28 and 33-37, Melanson (Fig. 2a) discloses an amplifier circuit comprising a delta sigma modulator (102) which is connected to receive an input signal (Input) and produces a bi-level modulation signal (output of 102), a switching mode power amplifier (106) which is driven by the bi-level modulation signal (output of 102) and having an output (output of 106), and a linearizer (220, 214, 212) which is connected to supply a corrective signal (RTF1, RTF2) at a location prior to the switching mode power amplifier (106).

Regarding claim 4, Melanson (Fig. 2a) further discloses a tunable output filter (110) which is coupled to the output of the amplifier (106).

Regarding claim 25, the filter (110) in Fig. 2a of Melanson (Fig. 2a) is functionally equivalent to the claimed harmonic filter.

Art Unit:

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 16, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melanson (Fig. 2a).

Melanson (Fig. 2a) discloses all the limitations in the claims except for that the passband at a frequency in excess of 300KHz and 800MHz, and the switching mode power amplifier is located within 2 meters from the antenna and the delta sigma modulator is located more than 5 meters from the antenna. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the specific frequency of the passband and specific distances between the switching mode power amplifier and antenna, since they are based on the routine experimentation to obtain the optimum operating parameters.

***Allowable Subject Matter***

12. Claims 5, 10, 12-15, 18-20, 26, 27, 29-32 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit:

***Reasons for Allowance***

13. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: digital to analog converter and its functional limitations. Regarding claim 10, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes an optical transmission medium and the first coupling circuit includes an electro optical coupler. Regarding claim 12, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a microwave radio link and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 13, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a path through signal carriers and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 14, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the transmission medium includes a coaxial cable. Regarding claim 15, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the extended interface is bidirectional. Regarding claim 18, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the linearizer circuit

Art Unit:

generates the corrective signal and the feedback signal is carried on the extended interface.

Regarding claim 28, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the switching mode power amplifier includes an electrically variable voltage bias power supply and a mechanism connected to vary the voltage of the bias power supply.

Regarding claim 29, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the switching mode power amplifier includes a plurality of parallel connected amplification circuits and a mechanism connected to adjust the output power. Regarding

claim 31, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: a mechanism and its functional limitations. Regarding claim 37, the closest prior art of record, Melanson (Fig. 2a) does not disclose the following limitation: the power supply includes an electrical storage cell charge by the wind generator and DC/DC converter.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent number (6,191,653) is the modulator circuit with the error correction signal.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (703) 305-0576.



Application/Control Number: 10/003725

Page 8

Art Unit:

A handwritten signature in black ink, appearing to read "Henry Choe", with a stylized, flowing script.

Name: Henry Choe

Art Unit: 2817

#711

June 16, 2003